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SURGERY FOR OBESITY AND RELATED DISEASES

Online only case report

Pancreatitis and intragastric balloon insertion

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Obesity is increasing worldwide with an increase in obesity-related mortalities and morbidities necessitating a higher need for interventions. Bariatric procedures are the most frequently used methods for weight loss; however, some patients have contraindications requiring nonsurgical techniques. Intragastric balloon is a relatively new nonsurgical method for weight loss that is being frequently used nowadays around the world for management of obesity. Although multiple complications of intragastric balloon have been previously reported, pancreatitis remains a very rare one.

Intragastric balloon is rapidly becoming a favored nonsurgical modality for the treatment of obesity. The mechanism by which the balloon reduces weight is reduction of space. Many side effects of balloon insertion have been previously described, including esophagitis, severe nausea and vomiting, abdominal cramps, hiccups, belching, pyrosis, bowel obstruction, mechanical gastric ulcer, and aspiration. Acute pancreatitis has rarely been reported.

Case report

A 27-year-old female patient with a body mass index of 32 kg/m^2 (weight: 87 kg; height: 164 cm) underwent intragastric balloon insertion as treatment for class II obesity. She had hypertension, sleep apnea, and bilateral knee pain, which were considered to be early osteoarthritic changes secondary to obesity. The balloon was inserted into the stomach and filled with 500 mL normal saline. Five weeks later, the patient presented to the emergency department with acute severe abdominal pain, awakening her from sleep. The pain was crampy in nature, continuously radiating to the back, and relieved by bending forward. She had an associated episode of vomiting of gastric content.

Her vital signs on admission were within normal limits. She denied alcohol intake. No new medications were reported. Her physical exam showed a soft abdomen. Bowel sounds were hypoactive. Labs on admission were not significant except for an amylase level of 718 U/L and lipase level of 2922 U/L.

An abdominal ultrasound showed no gallstones or dilated intra- or extrahepatic ducts.

A computed tomography scan was done the next day and showed the intragastric balloon and peri-pancreatic fat streaking. No masses were noted (Fig 1A).

An esophagogastroduodenoscopy was done on the next day, and it showed a normal esophagus with no apparent ulcers in the stomach or duodenum. The balloon was endoscopically deflated and removed. The patient had quick recovery with clinical remission on the day of removal and normalization of the labs 48 hours after the balloon removal. A magnetic resonance cholangiopancreatography was done and was normal (Fig 1B).

Discussion

Intragastric balloon is emerging as a favorable nonsurgical method for weight reduction and management of obesity-related symptoms. Its mechanism is related to restriction of food intake. Some of the studies done on the efficacy of intragastric balloon showed a mean reduction

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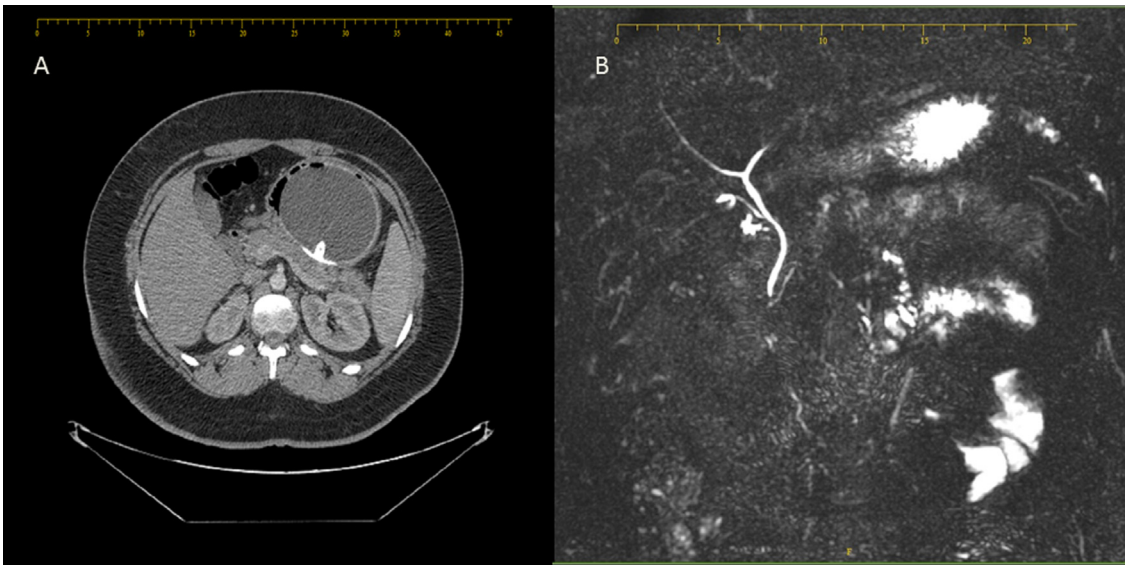

Fig. 1. (A) Computed tomography scan showing the intragastric balloon compressing on the pancreas. (B) Magnetic resonance cholangiopancreatography showing no abnormalities in both the pancreatic ducts and the biliary tree.

in weight of 15.3 ± 10.5 kg, body mass index reduction of 5.3 ± 3.4 kg/m^2, percentage excess weight loss of 48.3% ± 23.3%, and percentage total weight loss of 13.6% ± 7.3% [1]. Another study showed a direct relation of weight loss to balloon inflation size: Mean excess weight loss was 35.4% ± 27.3% for 500-mL balloons and 48.8% ± 31.0% for 600-mL balloons ($P < .02$) [2]. It has also been shown to decrease the morbidity postbariatric surgery when used as a bridge therapy [3,4].

Many life-threatening complications have been related to intragastric balloon, including intestinal occlusion and gastric perforation [5]. Other complications include vomiting, nausea, abdominal cramps, esophagitis, reflux, and electrolyte abnormalities; however, pancreatitis has rarely been reported. The mechanism of injury is probably due to the anatomic proximity of the balloon in the stomach to the pancreatic body, which leads to mechanical trauma and thus inflammation.

In this patient, after ruling out primary causes of pancreatitis and following the response to extraction, it was hypothesized that the intragastric balloon was the reason behind her presentation. The authors believe that this case report could influence the physicians' approach to abdominal pain post-bioenteric intragastric balloon (BIB) insertion and raise awareness of acute pancreatitis as early as 1-month after insertion to avoid the complications that might arise. In particular, the authors caution that the symptoms of pancreatitis, if mild, might be misinterpreted as distention by the balloon or esophagitis.

Disclosures

The authors have no commercial associations that might be a conflict of interest in relation to this article.

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